DOCUMENT RESUME

ED 100 000 EA 006 619

AUTHOR	Knezevich, S. J.
TITLE	Doctorate Needs in Educational Administration During the 1970's and 1980's: A Preliminary Analysis. A Report.
INSTITUTION	University Council for Educational Administration, Columbus, Ohio.
PUB DATE	[74]
NOTE	44p.
AVAILABLE FROM	University Council for Educational Administration, 29 West Woodruff Avenue, Columbus, Ohio 43210 ($2.50)
EDRS PRICE	MF-$0.75 HC Not Available from EDRS. PLUS POSTAGE
DESCRIPTORS	Administrative Personnel; *Administrator Education; Certification; Credentials; *Doctoral Degrees; Doctoral Programs; *Educational Administration; *Futures (of Society); *Graduate Study; Higher Education; Needs; Prediction; Professional Education; Professional Training; Tables (Data)

ABSTRACT

There are no data in this research report that would support the generalization that educational administration will face a doctorate glut during the 1970's or 1980's. There is far more reason to be worried about a glut in the number of institutions producing doctorates in educational administration than about a glut in the number of doctorates per se. There are currently 118 institutions engaged in the preparation of doctoral students in educational administration. This number is capable of satisfying the needs of the coming years. An expansion of doctoral students in those schools with established programs would result in more efficient utilization of resources. (Author/WM)

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DOCTORATE NEEDS IN EDUCATIONAL ADMINISTRATION DURING THE 1970's AND 1980's: A PRELIMINARY ANALYSIS

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EA 006 619

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(A Special Research Report for the University Council for Educational Administration, Columbus, Ohio)

PREFACE

This study had its origins within a UCEA leadership group in the early 1970's. Conversations initiated by Dr. Jack Culbertson, Director of UCEA, and reinforced by others such as Dr. Robin Farquhar, then Deputy Director of UCEA, resulted in a commitment by the writer to pursue an inquiry that could shed light, hopefully, on the issue of whether educational administration will be confronted with an overproduction of doctorates during the 1970's. Such concerns were triggered by the findings of other researchers from other fields. These studies conducted during the mid-1960's, which did not include educational administration, concluded that there could be a veritable doctoral glut. The consequence of this was at least underemployment of Ph.D's during the 1970's in a number of fields, particularly in the sciences and mathematics.

This effort was undertaken as an initial probe into a complex issue. A variety of data were generated or obtained from reports on graduate education in general, statistical abstracts on numbers of graduate degrees awarded in U. S., as well as the published conclusions and speculations of recognized experts concerned with the problem of graduate education in general and doctorate production in specific. To these were added this writer's personal experiences and interests as expressed in the special status studies of the American school superintendency in 1969-70.

The collection of definitive data on existing conditions represents a challenge. The problems of predicting future states are fraught with even greater danger and difficulty. Predicting the future from past trends is now open to question in view of the fact that data on education in general and educational administration in particular during the past two dynamic decades broke with established trends. The robust expansion in enrollments and faculty characteristic of the

1950's and 1960's is being replaced by first slower growth rates, then a brief period of relative stability, and eventually declines. The severe teacher shortages of the '50's and '60's turned rather suddenly into significant teacher surpluses of the '70's. In short, 1970-79 may well go down in history as a transitional decade, a period of continuing adaptation and adjustment in the field.

The lack of a base of established long term trends (data), the abrupt shifts in demand and supply make prognosis a very "iffy" thing. By the end of the decade, there may be a firmer base on which to build more definitive studies in each of the major dimensions of education. This paper may facilitate future inquiries of a similar nature or suggest studies of other dimensions of educational manpower policies during the present and subsequent decades.

The focus here is primarily on doctorates in educational administration and little will be said about the bachelor's, master's or specialist degree holders. There are too many data voids at this point in time to settle the basic issue in doctoral manpower needs in educational administration. Hopefully some major issues will be framed along with the reporting of preliminary findings. It is in this humble spirit that the data, speculations, and recommendations are presented.

Doctoral Production In Perspective

Graduate education is a relatively recent development in a much longer history of higher education in the United States. Programs of student study which terminate with the earning of a doctorate have been in existence for less than 115 years. The first Ph.D. was awarded by Yale University in 1861. The numbers granted in any one year climbed slowly during the remainder of the 19th century. By the end of the previous century the annual production rate in the academic disciplines remained below 400; only 382 doctorates in all disciplines were awarded in the last academic year of that century.

The first of several big surges was recorded during the 1920's. The annual output of earned doctorates in all fields almost quadrupled going from 615 in 1919-20 to almost 2,300 in 1929-30. The production of doctorates climbed at a slower rate during the depression decade. In 1939-40, there were only about 1,000 more than the numbers awarded ten years previously.

Graduate education, particularly at the doctoral level, was predominately the preserve of a limited number of institutions. Up until the end of World War II, most were privately supported schools. By 1921, fewer than 60 universities were granting the highest degree. Only 18 more became doctoral institutions by 1931.

Prior to World War II the typical institution awarded only a few Ph.D.'s. Thus, as late as the 1930's only 45 universities granted 10 or more Ph.D.'s per year. There were a limited number that granted the majority of the doctorates. The Keniston survey reported that 15 universities awarded 75 percent of all doctorates in 1925 and 59 percent in 1934. The declining percentages continued for these same 15 leading universities presented 49 percent of the doctorates in 1940 and less than 40 percent in 1966.

A veritable explosion in graduate education enrollments and earned graduate degrees took place in the post-World War II period. These dramatic events were stimulated in part by the grants and fellowships of the federal government. The unprecendented expansions in graduate studies brought more institutions to the doctoral level. Nearly 50 additional universities inaugurated doctoral programs between 1952 and 1962. The number of earned doctorates awarded annually almost tripled during the 1960's. Thus, as shown in Table I, earned doctorates (in all disciplines) in 1961-62 totaled 11,622; ten years later (1970-71) they hit 32,113. These dramatic gains peaked out in the late 1960s. Nonetheless, doctoral production in 1969-70 was about 200 times that in 1889. The annual output of doctorates during the first 100 years of such programs grew from 1 in 1861 to 11,622 in 1961-62.

Education Doctorates

The data on earned doctorates in the field of education are presented in Table I, as well, and are based on reports published by the National Center for Educational Statistics.

Earned doctorates in education in 1955-56 were approximately 16 percent of doctorates awarded in all fields and totaled less than 1500 in the first year national data were available. The growth rate in education doctorates was relatively modest in the late 1950's and the early years of the 1960's. By 1965-66, however, the annual production of education doctorates was more than double that in 1955-56.

Through most of the 1950's and 1960's education doctorates grew at about the same rate as that for all doctorates in general, fluctuating around 16 percent of the total. In the last half of the 1960's earned doctorates in education began to command a higher percent of the total reaching 20 percent of all doctorates awarded in 1969-70. The upward trend continued in the early 1970's for by 1972-73 education doctorates were 21½ percent of all earned doctorates. Numerically, the earned doctorates in education during the 1960's more than tripled, climbing from an annual production of 1900 in 1961-62 to almost 6400 in 1970-71 and almost 7400 in 1972-73. As stated in previous paragraphs the total annual output of doctorates in all fields did not quite triple in quantity during the same period.

Since the late 1960's (around 1967-68) education doctorates exceeded the total number of doctorates in all disciplines classifed by the USOE as parts of the social sciences. Throughout the 1960's and continuing presently, there were more doctorates in education granted than the combined total of those in the humanities disciplines. In 1966-67 education doctorates exceeded doctorates granted in the physical sciences. There are more doctorates granted in educa-

TABLE I

Earned Doctorates and Other Degrees Conferred
By Institutions of Higher Education;
United States, 1869-70 to 1970-71

1. Year	2. All Earned Degrees	3. All Earned Doctorates	4. Earned Doctorates In Education	5. Col. 4 / Col. 3 (For 1955 and Thereafter)
1869-70	9,372	1	–	–
1879-80	13,829	54	–	–
1889-90	16,703	149	–	–
1899-1900	29,375	382	–	–
1909-1910	39,755	443	–	–
1919-20	53,516	615	–	–
1929-30	139,752	2,299	–	–
1939-40	216,521	3,290	–	–
1945-46	157,349	1,966	–	–
1949-50	496,661	6,420	–	–
1955-56	376,973	8,903	1,438	.16
1957-58	436,979	8,938	1,638	.18
1959-60	476,704	9,829	1,590	.16
1961-62	514,323	11,622	1,900	.16
1963-64	614,194	14,490	2,348	.16
1965-66	709,832	18,237	3,063	.17
1967-68	866,548	23,089	4,079	.18
1969-70	1,065,390	29,866	5,894	.20
1970-71	1,140,292	32,107	6,398	.20
1971-72*	1,192,000	33,400	7,040	.21
1972-73*	1,277,000	34,400	7,390	.215

SOURCE: National Center for Educational Statistics

* Estimates from M. M. Frankle and J. F. Beamer, *Projections of Educational Statistics to 1982-83*, 1973 Edition, OE 74-11105, USDHEW, Office of Education, Washington, D. C.: GPO, 1974, pp. 50-57.

tion each year than in any other discipline. In 1970-71 the ten fields with the largest numbers of doctorates awarded were as follows:

1) Education — 6,398
2) Physical Sciences — 4,390
3) Social Sciences — 3,659
4) Biological Sciences — 3,645
5) English — 3,615
6) Letters — 2,416
7) Psychology — 1,782
8) Mathematics — 1,199
9) Agriculture — 1,086
10) Business and Management — 810

Deficits vs. Overproduction

What do all these facts on growth in doctoral production since the end of World War II mean, particularly the explosive growth of the 1960's? There were conflicting interpretations based on differing

extrapolations. One study conducted in the early 1960's, which examined the demand for doctorates in higher education in the 1970's, concluded that there would be a massive deficit of some 120,000 Ph.D.'s by 1973-74.[1] Cartter and other writers, a few years later, not only questioned the size of the so-called "deficit", but predicted the contrary would occur, namely, that there would be a surplus of doctorates, that is, more doctorates than positions available to them. In short, those with the highest earned degree would be competing for the same positions in higher education during the 1970's resulting in at least underemployment of these degree holders. The times proved that Cartter's concern for Ph.D. overproduction in the 1970's was closer to reality. His predictions triggered the continuing debate as to the future of graduate education, particularly for programs at the doctoral level.

The Cartter study, published in 1966, sought to identify academic excellence in graduate programs in all the major universities in the United States. The most decisive impact of this study was, however, on the controversies generated and related to the quantity of doctorates produced, rather than qualitative standards, in selected graduate fields in the United States. Education in general and educational administration in specific, were not part of the sample of graduate programs investigated by Cartter. His survey was limited to 106 universities whose doctoral output averaged at least 10 per year during 1953-62. It was Cartter's almost incidental comments on the growth of graduate programs in various universities that generated the continuing concern and debate on doctoral outputs right up to the present moment.

Recent Reports on Graduate Education

The fate and future of graduate education, in general, in American institutions of higher learning, both public and private, were topics of considerable popularity in the literature of the late 1960's and early 1970's. It is beyond the scope of this article to review all the literature on graduate education in the United States since the primary focus shall be on doctorate manpower needs in educational administration during the present and at least part of the following decade.

Three significant and prestigious panels on graduate education published recent statements and each deserves a brief review. One task force was established by the Department of Health, Education and Welfare and was chaired by Frank Newman of Stanford University. What is popularly referred to as the Newman Report[2] released its findings early in 1973. It depicted the "golden years" of graduate education as the twenty-five year period prior to 1970; the time when graduate enrollments registered unprecedented growth.

Graduate enrollments, which previously had doubled between 1940 and 1950, almost quadrupled between 1950-1970 moving from 237,000 to 907,000 students. The greatest rate of increase in graduate education occured at the Ph.D. level. The total number of all graduate degrees awarded quadrupled in the post war years; but there was a *seven-fold increase in Ph.D. degrees* granted during the same period. *Almost one hundred-forty universities started new programs leading to a Ph.D. degree during 1950-70*, thereby *doubling the number of doctorate granting institutions within a twenty year period.*

Following the "golden years", according to the Newman Report, graduate education in the United States found itself "in trouble" because of the costly oversupply of graduates in some fields. This motivated some institutions in the 1970's to cut-back on admissions to some Ph.D. programs, for at the same time a number of states began to curtail support of graduate programs. The largest cut-backs in candidates occurred in the highest quality institutions, both public and private. What happened next was that graduate students shifted from institutions of acknowledged quality in preparing Ph.D. candidates to the newer programs at other universities which were slower in curtailing enrollments. This sequence of events was interpreted by many as a threat to the overall quality of graduate training for scholarly research. The report noted the operation of a kind of Gresham's Law in doctoral programs. Members of the Task Force offered the opinion that "an anomaly of the 1970's is that the effort to build new Ph.D. granting departments may drive some of acknowledged excellence from the field." By the same token, there was room and a need for unique doctoral programs. The Task Force cited the need for social service-oriented degree programs as well as an elimination of barriers to the entry of women and minority students to doctoral programs.

The published Newman Report reinforced what others previously observed, namely, that graduate education, particularly at the Ph.D. level was no longer dominated by private institutions. It was during the post-WW II period that public institutions moved toward the position they presently hold as the largest granters of doctorates. The impact of the federal government was noted. Federal grants and fellowships did much to stimulate the increase of number of institutions granting degrees as well as graduate enrollment. The Newman Report recommended additional criteria for the selection of students to receive fellowship rewards to recognize "evidence of motivation, initiative, and accomplishment indicative of the contribution that the graduate will make to society after completing graduate work." Academic achievement should be viewed, according to the experts on this panel, as but a single and *not the only* relevant criterion for

selecting graduate students. This report observed what many others did before them, namely, "performance in later life is not necessarily predicted by success as a student."

The Newman Report recommended "portable fellowships," that is, grants made directly to the student. The student would be allowed to move his grant from institution to institution should he so desire. In general, the various recommendations of the Newman Report sought to re-orient graduate and professional education.

The second recent and significant report was issued by the National Board on Graduate Education in 1974. It was chaired by former University of Illinois President Dr. David D. Henry, and hence, is popularly referred to as the Henry Report.[3] The National Board on Graduate Education (NBGE) with twenty-five members was much larger in size and broader in representation than the Newman Task Force of eight. The National Board, or the Henry panel, cited the importance of graduate education, scholarship and research that emanated from the nation's universities to the scientific, economic, and cultural development of the nation. They emphasized the national impact of graduate education and research. The users of highly trained scientists and scholars represent a national labor market as well as a local and regional one. Therefore, the federal government's involvement and assumption of a major responsibility for the stimulation and financing of graduate education in the United States was essential. NBGE pointed out the number of federal graduate fellowships and traineeships had fallen dramatically from over 50,000 students supported in 1968 to an estimated 6,600 in fiscal 1974.

The Henry panel concurred with previous studies that graduate schools were in the throes of a serious adjustment to the circumstances of the 1970's which were dramatically different from the earlier glory days. They rejected what they called, "forecasts of an impending Ph.D. glut." In that sense the Henry panel took issue with the Newman Report of 1973 and even the conclusions of Cartter in 1966. The National Board criticized "the limited focus of the Newman Task Force" and the task force's inability to see graduate education relationships to "the overall vitality of the university as an institution."[4] It likewise reacted to the alleged operation of "Gresham's Law" of Ph.D. enrollments, suggested in the Newman Report, and pointed out that "expansion of less prestigious institutions does not automatically cause cut-backs in programs at institutions of acknowledged excellence because of the latter's perceptions of a diminished market for graduates." NBGE cited the fact that the top sixty universities produced 68 percent of the total Ph.D. degrees in 1969-70 even though these institutions expanded Ph.D. degree production at a much slower rate than did the newer

ones. The Henry Report, nonetheless, went on record to "discourage the proliferation of graduate programs, while ensuring that universities have the necessary resources to develop programs in new fields of study to meet new social needs" as well as to assess the potential job market to determine if the supply of persons with master's, professional and doctoral-level education is in reasonable balance with long-term demands of a complex technological society." To this end they sought a commitment of $108,000,000 annually from the U. S. government for graduate education. This would support approximately 11,000 students or only about 20 percent of the 51,000 supported in 1968, the high point of aid for graduate education. NBGE also recommended that "federal support for basic research grow at the same rate as the gross national product", a limited number of federally supported "portable fellowships" be available, and there be greater access to doctoral programs among minority group members, women, and older students.

NBGE argued that "stop-and-go" policies, that is, abrupt shifts in federal government graduate education programs to counteract assumed over-supply at various points in time, are inefficient. This panel added, "although market demands for research and highly educationed manpower will fluctuate with the nation's priorities, it is essential that the most academically talented young people in each college graduation class be assured of access to high-quality graduate education." In short, the "aggregate supply-demand considerations should not be used to eliminate all forms of federal fellowships." The Henry panel suggested that the current information on the labor market for Ph.D.'s is somewhat suspect. They did not manifest confidence in supply or demand projections for Ph.D.'s outside the academic world.

Another of the recent reports on graduate education grew out of a "Panel on Alternate Approaches to Graduate Education."[5] This committee sought to "search out issues buried beneath stereotypes, slogans, codework, and enmities." It, too, was concerned about the current mood of depression in graduate education brought on by the so-called "overexpansion" in previous decades. They addressed themselves to the so-called "Ph.D. glut of the 1970's" as follows: "It can be agreed that the skills of the Ph.D. who finds work in business or in high school teaching should not be thought of as wasted." This panel was of the opinion that "the cycle of boom and bust through which graduate education has recently passed has badly clouded perceptions of roles and responsibilities." They joined all others and added their voice to the call to form efforts to recruit women and able minority people to graduate programs.

The three recent (1973 and 1974) reports on graduate education attest to the continuing and deep interest this topic continues to

command in higher education. Some confirm Cartter's earlier concern for Ph.D. overproduction, but others question and soften the extreme implications of it. There are differing interpretations of the concept of underemployment of Ph.D.'s. Most agree that the 1970's will be a decade of adaptation and certainly no great continuing expansion in graduate education. The focus of all recent reports, as well as Cartter's, is Ph.D. production in the academic disciplines. They have little to say about professional school doctorates and practically nothing specific about doctorates in educational administration, which is the prime focus of this report.

The Users of Doctorates in Fields Other Than Education

The previous paragraphs focused on the producers of doctorates and the numbers earning such degrees. The emphasis now shifts to what happens to or who uses the talents of those who earn the doctorate. All writers on graduate education in the last ten years and including publications such as: The Cartter Report of 1966, the Newman Report of 1973, the Panel on Alternate Approaches of 1973, and the Henry Report of 1974 concur that the prime users or employers of doctorates, earned in disciplines other than educational administration, are universities. Traditionally, Ph.D.'s have been assigned to or involved in teaching or research roles. Their subsequent selection for administrative roles in universities is often the outgrowth of prior experience in instructional and research activities. What is more, thousands of graduate students pursuing the doctorate represent a very important resource which allows the university to satisfy undergraduate teaching functions at a "reasonable" cost. In short, universities have an important stake in graduate students both before and after they receive a doctorate. Thus, according to one source, "throughout the 1960's, 60 percent of the total output of new doctorates found their first post-doctoral position in institutions of higher education and an additional 12 to 14 percent post-doctoral fellowships usually at universities."[6] In short, almost three-fourths of the doctorates in the previous decade found their initial employment in institutions of higher learning. It is apparent that the issue of oversupply or undersupply of doctorates, in fields other than educational administration, is very closely tied to the fate of institutions of higher learning. If university enrollments increase or decrease, if their budgets for teaching and research are expanded or curtailed, then obviously the employment opportunities for Ph.D.'s will, in large measure, increase or decrease. The impact of the federal government is significant as well for it provides over 60 percent of the funds that support all basic research. Over 50 percent of federally funded basic research is fulfilled in a university environment.

The rule of thumb has been that at least half of the new doctorates become college or university teachers. But, as Cartter prophesied in 1966, no more than one-fourth of these doctorates were likely to be employed in institutions of higher learning during the 1970's. Cartter[7] pointed out that there are "three basic factors that contribute to the demand for new faculty: replacement, expansion, and improvement." The replacement rate is a small variable; less than 2.0 percent new persons will be needed in the 1970's to replace those that retire or die. He cited expansion as the key factor in the demand for Ph.D.'s in the 1960's. Growth in enrollment and new programs accounted for employment of three-fourths of all new teachers added to the staffs of institutions of higher learning during the 1950's and most of the 1960's. The decline in enrollments slowed the development rate for new graduate programs in the late 1960's. Retrenchment started in the 1970's and radically reversed the previous graduate school expansion and quality improvement plans.

Harsh economic realities confronted the traditional users of young Ph.D.'s. The result was greatly reduced numbers of job vacancies in the academic disciplines during the 1970's. These factors generated what some have called the "Ph.D. glut", which translates into there being more Ph.D.'s than there are university positions available. The U. S. Office of Education projected the total number of Ph.D.'s produced during the 1970-79 decade as 73,952 in the social sciences, 56,839, in the humanities, and 184,688 in the natural sciences and miscellaneous fields, but *not* including education. The grand total for the decade in fields other than education is 315,479, and with education is 413,797. Assuming 50 percent employment in universities, there would be about 157,740 Ph.D.'s looking for university positions during 1970-79.

It was not surprising that Roose and Anderson in 1971 were led to the conclusion that "a more than sufficient supply of Ph.D.'s for most traditional users can be trained in the graduate programs of, say, 50 or so top-rated institutions."[8] These data would suggest that the 1970's would not be the times to justify an increase in doctoral programs on the grounds of an urgent need for more Ph. D.s.

It is dangerous to transfer events as to what is happening to Ph.D.'s in other fields to that of educational administration. Doctorates in educational administration have available to them a much broader job market. Educational administration doctorates (to be identified henceforth as EAD's) are not prepared to be primarily teachers, do not look to institutions of higher learning as their prime job market, and do not consider research and development activities in universities, government, or industries as their secondary employment market.

SECTION II

The Supply of Educational Administration Doctorates (EAD's) and Graduate Training Capabilities in the Field

The graduate level training capabilities of universities with programs in the field of educational administration are difficult to ascertain with a high degree of preciseness. It is only in the past ten years that data on the number of doctorates produced annually in educational administration have become available. For the purposes of this report the term EAD (Educational Administration Doctorate) will be used to identify those who have an earned Ed.D. or Ph.D. These are considered as terminal degrees and of equal academic stature in the field. Likewise, the highest graduate degree may be earned in finance, secondary administration, elementary administration, supervision, or simply general school administration to be considered an educational administration doctorate (EAD). During the 1950's, EAD's reported in USOE statistics were inflated because earned doctorates in curriculum and comparative education and counseling and guidance were lumped in with EAD's. As late as 1962-63 earned doctorates in curriculum and comparative education were included in totals for EAD's. At the other end of the spectrum, data on EAD's may be understated to some degree with EAD's hidden in the general classification of "education doctorates." In some institutions higher education doctorates are granted from Departments of Higher Education; in others they are grouped with EAD's.

The AASA and UCEA have issued studies on the number of institutions preparing educational administrators, their graduate enrollments in educational administration, and the number of EAD's awarded.[9] The 1962-63[10] and 1969-70 AASA Status studies started with the assumption that there were roughly 288 colleges and universities reputed to be preparing administrators for some school

level. In each case a sizeable number (about 77 to 82) responded to the AASA inquiries by declaring they had no preparation programs for the superintendency or that they offered courses only with no degrees in administration.

The more recent UCEA study identified 362 institutions of higher learning in the United States assumed to be offering programs in educational administration in 1972. Culbertson presented data on 284 such preparatory institutions in the U. S. and two in Canada.

Of specific concern here are institutions with doctoral production capabilities. The 1969-70 AASA study identified 105 institutions of higher learning in the United States offering some type of doctorate. Of these institutions 34.3 percent awarded the Ed.D. only, 21.9 percent the Ph.D. only, and 43.8 percent both the Ed.D. and Ph.D. Culbertson, in 1972, identified 118 institutions that offered doctoral programs in educational administration of which 20 offered the Ph.D. only, 42 the Ed.D. only and 56 both the Ph.D. and Ed.D. degrees. Culbertson's sample of 118 doctoral institutions is 13 more than the 105 identified by AASA about three years earlier.

The difference between the two rather similar results may be traced to the time factor, by and large. Thus, Culbertson reported that 7 new Ed.D. and 4 new Ph.D. programs were added between 1970-72. The more recent data collected by Culbertson will be used as the basis to indicate the manpower training capabilities in the field for the production of educational administration doctorates. Culbertson noted that there was substantial growth in master's programs that took place in the 1950's, and that this growth slowed in the 1960's. He also observed that the number of institutions with Ed.D. programs in educational administration more than tripled between 1940 and 1970, with the 1960's being the period of greatest growth. Ph.D. programs grew at a much slower rate during the same period. By the same token, 15 new Ph.D. programs in educational administration were projected by Culbertson for the 1970's.

The AASA study revealed that the number of students completing Ed.D. programs in educational administration increased from 271 in 1960-61 to 648 in 1968-69. The number of students completing Ph.D. programs in educational administration increased from 68 in 1960-61 to 958 in 1968-69, that is, they more than tripled in a decade.

The average number of Ed.D. completions per institution of higher learning in 1968-69 was approximately nine. The average number of Ph.D.s awarded per university was almost six. Thus, if the typical institution awards both the Ed.D. and a Ph.D. it would turn out about 16 doctorates a year. The range is very great. Thus, the smallest number of Ed.D.'s in educational administration turned out in 1968-69 by any institution was one; the highest was 39. For

Ph.D.'s the lowest number granted by any university was one; the highest in 1968-69 was 23.

EAD's and Doctorates in Education

The supply dimension of the demand-supply equation is the number of EAD's produced annually or cumulatively over a given period of time (say over 5 or 10 years). The number of doctorates granted in education in general and educational administration in specific for various years are summarized in Table II. As indicated previously data on the number of EAD's prior to 1962-63 are suspect and much higher than shown since other smaller education disciplines were lumped in with the EAD's. In general, an estimated 300 to 400 EAD's were awarded annually during the 1950's. The period of greatest growth thus far occurred in the 1960's. Roughly speaking between 600 to 700 EAD's were awarded each year during the first half of the 1960's. The last half of the previous decade saw the annual production of doctorates fluctuate between 700 to 1000. The most recent data available from the National Center for Education Statistics is for 1970-71 when 1,028 EAD's were earned.

Of significance are data shown in column 4 in Table II. It is the ratio between doctorates in education in general and EAD's in specific. Although doctorates in educational administration more than doubled during the previous decade the rate of increase was even greater for doctorates in education in general. Thus, in 1963-64 doctorates in educational administration comprised 30.8 percent of all the doctorates awarded in educational administration. In contrast, in 1970-71 EAD's comprised only 16.1 percent of the total of the doctorates in education as a whole.

In 1970-71 the total number of EAD's were almost twice that of the next largest annual doctoral specialization in education. This happened to be the field of student personnel. Nonetheless, a larger number of specialized fields in education are offering doctorates. Their combined growth *rate* exceeds that for EAD's. The number of doctorates in the general designation of education (no other field of specilization shown) remained the largest single subclassification with 1,598 being reported for the year 1970-71.

A number of generalizations about the dominance of EAD's in the field of education have been made. These generally were based on data in the late fifties and early 1960's. Thus, as late as 1963-64 EAD's were 30.8 percent of all doctorates in education. The number of EAD's granted in 1963-64 was greater than the combined total of doctorates in the next four largest fields in education granting doctorates. Such information was assumed to remain stable and indicative of the overproduction of EAD's. In 1970-71 the number of EAD's was larger than that granted in the next two largest doctorate

producers in education, but less than that of the doctorates in the "Education, general" category.

It should be apparent from column 4 of Table II that the percent EAD's are of the total education doctorates has been dropping in each succeeding year of the 1960's. By the end of the 1960's, the 1969-70 year, EAD's comprised only 17.2 percent of the total doctoral awards in the field. The 1970's began with a continuing decline in percent with EAD's contributing only 16.1 percent of the total. Keep in mind that the percent EAD's are of the total for education declined, but the absolute numbers climbed to exceed 1,000 per year for the first time in 1969-70.

During the 10 year period of 1961-62 to 1970-71, the number of EAD's awarded annually did not quite double (from 583 to 1,028).

TABLE II

Earned Doctorates Awarded In Education In General Compared With Earned Doctorates Awarded In Educational Administration In Specific; 1955 to 1973

1. Year	2. Doctorates Awarded In Education	3. Educational Administration Doctorates	4. Ratio Between EADs and Total Doctorates Awarded In Education (Col.3) / (Col. 4)
1955-56	1,438	Data Not Available	--
1956-57	1,533	449	*
1957-58	1,638	458	*
1959-60	1,590	584	*
1960-61	1,594		
1961-62	1,900	583	**
1962-63	2,075	602	**
1963-64	2,348	722	30.8%
1964-65	2,708	651	24.0%
1965-66	3,063	633	20.7%
1966-67	3,529	704	19.7%
1967-68	4,079	789	19.3%
1968-69	4,829	917	18.8%
1969-70	5,894	1014	17.2%
1970-71	6,398	1028	16.1%
1971-72***	7,040		
1972-73***	7,390		
Subtotal A: 1961-62 to 1965-66	12,094	3191	--
Subtotal B: 1966-67 to 1970-71	24,729	4452	18.0%
Subtotal C: 1961-62 to 1970-71	36,823	7643	--

(Based on data published by various editions of the *Digest of Educational Statistics)*

*Only data available grouped earned doctorates in curriculum, comparative education, and counseling and guidance with educational administration.

**Only data available grouped earned doctrates in curriculum and comparative education with educational administration.

***Estimates of education doctorates reported in *Projections of Educational Statistics to 1982-83,* Table 25, p. 57 (1973 edition).

For the same period of time the annual production of all education doctorates more than tripled (from 1,900 to 6,398). Documentation of the proliferation of specializations in education is provided in Tables III and IV. Note that only eight categories were used in reporting degrees earned in education in 1964-65. In contrast, reporting on earned degrees in education in 1970-71 was based on forty-four categories; doctorates were indicated in thirty-eight of these classification units. The number of master's degrees granted in education in 1970-71 was almost fourteen times the number of doctorates.

The cumulative total of the EAD's awarded during 1961-70 was 7,643. Again, it is emphasized that this figure is suspect since during the first two years of this period doctorates in curriculum and comparative education were included in the total submitted for educational administration. A better indicator is the 1966-67 to 1970-71 period when EAD's totaled 4,452 for the period. This was 18 percent of the cumulative number for the same time span for education doctorates as a whole.

TABLE III

Earned Doctorates Conferred In The Field Of Education, 1964-65

Area of Specialization	Total	Men	Women
1. Business Education, Commercial Education	30	24	6
2. Counseling and Guidance	237	201	36
3. Educational Administration and Supervision, finance, curriculum, comparative education, etc..	651	583	68
4. Elementary Education	149	97	52
5. Music Education	67	59	8
6. Physical Education	110	77	33
7. Secondary Education	87	73	14
8. Education, all other	1,377	1,065	312

SOURCE: U. S. Department of Health, Education, and Welfare, Office of Education, *Earned Degrees Conferred, 1964-65.*

Projections of EAD's for the '70's

Projections of doctorates in educational administration during the 1970 decade are fraught with difficulties. Two kinds of data were used to project EAD's for the 1970's: (1) the estimated or projected number of education doctorates and (2) the estimated percent EAD's are of education doctorates in general. Projections of educational statistics have been computed and published annually by the National Center for Educational Statistics for many years.

There are sizeable variations in the number of doctorates projected for the same future year from one edition of USOE published statistics to another. Data on projected earned education doctorates reported in selected editions are shown in Table V. Note first of all that the *actual number* of education doctorates produced *in 1970-71* (6,398) was almost twice that anticipated in the 1967 edition and about 1,000 more than that expected in the 1970 edition.

Projections for a future year such as 1975-76 show wide swings in judgments from one edition to the next. Thus, the 1967 editions of *Projections of Educational Statistics* anticipated 4,400 earned doctorates in 1975-76. In contrast, for the same 1975-76 period, the 1970 edition predicted 8,430 education doctorates, the 1971 edition 11,530, the 1972 edition 10,590, and the 1973 edition 10,010. Depending upon one's vantage point in time 1975-76 was assumed to witness the production of as few as 4,400 education doctorates to as many as 11,530! The high projection was 2½ times the low one; all this within a four year period between published editions. The 1971 edition had the highest set of projections and its impact was most noticeable in the last years of the present decade. Relatively smaller variations are noted for the last part of the decade between data recorded in the 1972 and 1973 editions.

The USOE National Center for Educational Statistics, which computes the projections, makes it clear in footnotes to appropriate tables that doctoral projections are based on the assumption that past trends, usually data collected for a prior 10 year period, will continue. In times of dramatic shifts, by definition, past trends are violated. The low estimates for 1975-76, for example, were based on years of limited education doctorate production which were assumed to have established a trendline. The shattering of trend, brought on by a sizeable spurt, resulted in the very high figures shown for the same year in the 1971 edition. This is not intended and should not be interpreted as a criticism of the USOE and its National Center of Educational Statistics. They were brave enough to provide the predictions and used the best available information and techniques. It does demonstrate the serious limitations of the present status of the professional art of prognostication of long term future states. There are dangers in predictions of future events and, therefore, all forecasts must be interpreted with caution. Whatever the limitations of the art, man doggedly continues to probe the future, to glean data he hopes will help him to prepare for what he thinks will happen tomorrow.

The doctoral predictions developed herein were based on data in the 1973 edition of *Projections of Educational Statistics to 1982-83.*[11] Whatever the limitations, those were the best available data. The cumulative total number of doctorates in education

TABLE IV

Bachelor's, Master's, and Doctor's Degrees Conferred In The Field of Education, 1970-71

1	Bachelor's Degrees			Second-Level (Master's) Degrees			Doctor's Degrees (Ph.D., Ed.D., etc.)		
	Total 2	Men 3	Women 4	Total 5	Men 6	Women 7	Total 8	Men 9	Women 10
Education, All Fields	**176,571**	**45,089**	**131,482**	**88,716**	**38,899**	**49,817**	**6,398**	**5,043**	**1,355**
1. Education, general	2,026	383	1,643	12,867	5,458	7,409	1,598	1,272	326
2. Elementary education, general	90,432	8,090	82,342	17,070	3,123	13,947	219	116	103
3. Secondary education, general	3,549	1,529	2,020	5,422	2,937	2,485	212	170	42
4. Junior high school education	721	260	461	134	67	67	2	1	1
5. Higher education, general	6	6	–	308	145	163	274	233	41
6. Junior and community college education	1	1	–	91	55	36	6	5	1
7. Adult and continuing education	12	7	5	239	141	98	45	35	10
8. Special education, general	2,320	341	1,979	3,051	845	2,206	114	77	37
9. Administration of special education	–	–	–	106	40	66	9	6	3
10. Education of the mentally retarded	2,640	375	2,265	935	267	668	18	13	5
11. Education of the gifted	12	1	11	28	7	21	–	–	–
12. Education of the deaf	239	11	228	208	40	168	4	2	2
13. Education of the culturally disadvantaged	3	1	2	115	54	61	–	–	–
14. Education of the visually handicapped	78	4	74	97	25	72	2	1	1
15. Speech correction	2,358	284	2,074	572	78	494	40	30	10
16. Education of the emotionally disturbed	347	56	291	378	91	287	14	9	5
17. Remedial education	–	–	–	87	17	70	–	–	–
18. Special learning disabilities	125	9	116	179	37	142	2	2	–
19. Education of the physically handicapped	149	17	132	150	32	118	–	–	–
20. Education of the multiply handicapped	63	4	59	50	12	38	–	–	–

21. Social foundations	180	110	70	534	304	230	129	98	31
22. Educational psychology	307	198	109	1,286	612	674	362	274	88
23. Pre-elementary education	3,405	47	3,358	533	34	499	9	2	7
24. Educational statistics and research	3	–	3	61	34	27	58	45	13
25. Educational testing evaluation, and measurement	–	–	–	222	106	116	30	24	6
26. Student personnel	7	3	4	13,335	6,589	6,746	556	440	116
27. **Educational administration**	**5**	**4**	**1**	**7,702**	**6,127**	**1,575**	**957**	**875**	**82**
28. **Educational supervision**	–	–	–	**707**	**333**	**374**	**71**	**62**	**9**
29. Curriculum and instruction	296	81	215	2,261	887	1,374	458	341	117
30. Reading education	9	1	8	2,789	299	2,490	61	31	30
31. Art education	5,661	1,598	4,063	998	334	664	53	37	16
32. Music education	7,264	3,064	4,200	1,564	837	727	109	95	14
33. Mathematics education	2,217	1,078	1,139	782	429	353	49	34	15
34. Science education	891	479	412	883	540	343	91	76	15
35. Physical education	24,732	15,177	9,555	4,410	3,032	1,378	283	214	69
36. Driver and safety education	132	99	33	171	146	25	2	1	1
37. Health education	1,089	447	642	405	199	206	51	43	8
38. Business, commerce, and distributive education	8,550	2,627	5,923	1,924	777	1,147	82	56	26
39. Industrial arts, vocational and technical education	7,071	6,965	106	2,099	1,988	111	106	100	6
40. Agricultural education	1,398	1,384	14	447	426	21	43	42	1
41. Education of exceptional children, not classified above	26	3	23	112	26	86	4	3	1
42. Home economics education	6,449	94	6,355	802	77	725	28	1	27
43. Nursing education	603	13	590	330	13	317	28	1	27
44. Other	1,195	238	957	2,272	1,279	993	219	176	43

TABLE V

USOE Projections of Earned Doctorates in Education

Year Projected	Number of Education Doctorates Estimated In Published Editions of *Projections of Educational Statistics:*				
	(1) 1967 Edition[a]	(2) 1970 Edition[b]	(3) 1971 Edition[c]	(4) 1972 Edition[d]	(5) 1973 Edition[e]
1970-71	3,240	5,360	6,210	6,398[f]	6,398[f]
1971-72	3,420	5,740	7,240	7,350	7,040[g]
1972-73	4,020	6,460	8,770	8,670	7,390[g]
1973-74	4,390	7,470	9,680	9,500	8,470
1974-75	4,350	7,870	10,390	10,070	9,390
1975-76	4,400	8,430	11,530	10,590	10,010
1976-77	4,610	8,890	12,740	11,210	11,440
1977-78		9,450	14,270	11,810	11,970
1978-79		9,940	15,390	12,230	12,800
1979-80		10,350	16,870	12,820	13,400
1980-81			18,380	13,360	13,440
1981-82				13,890	13,620
1982-83					13,900

(a) K. A. Simon and M. G. Fullam, *Projections of Educational Statistics to 1976-77*, OE-10030-67. Washington, D. C.: GPO, 1967, p. 39, (1967 edition).

(b) K. A. Simon and M. G. Fullam, *Projections of Educational Statistics to 1979-80*, OE-10300-70, Washington, D. C.: GPO, 1970, p. 30, (1970 edition).

(c) K. A. Simon, M. G. Fullam and M. M. Frankel, *Projections of Educational Statistics to 1980-81*, OE-72-99, Washington, D. C.: GPO, 1971, p. 54, (1971 edition).

(d) K. A. Simon, M. G. Fullam, and M. M. Frankel, *Projections of Educational Statistics to 1981-82*, OE-73-11105, Washington, D. C.: GPO, 1972, p. 59, (1972 edition).

(e) M. M. Frankel and J. F. Beamer, *Projections of Educational Statistics to 1982-83*, OE-74-11105, Washington, D. C.: GPO, 1973, p. 57. (1973 edition).

(f) Actual number of degrees awarded.

(g) USOE estimates based on available data.

projected for the 10 year period 1971-72 to 1980-81 (based on the 1973 edition of USOE projections) was computed to be 105,360 doctorates. The National Center for Educational Statistics forecasted, in its 1971 edition, for the same 1971-72 to 1980-81 decade a cumulative total of 125,260 doctorates in education. The difference between the two is almost 20,000 doctorates for the period or roughly 2000 per year. This difference of almost 20,000 is greater than the total number of education doctorates granted prior to 1960-61.

Projected earned education doctorates and those computed for EAD's during the 1970's by the writer are presented in Table VI. On the one hand the estimates of doctorates in educational administration in future years prepared herein are obviously influenced by the accuracy of education forecasts. On the other hand, the EAD projections are also tied to the soundness of the

assumptions made as to the percent of all doctorates in education that will be earned in the field of educational administration. It was pointed out in previous paragraphs that this percentage has been declining since around the middle of the 1960's. Computations of projected EAD's for the 1970's are based on three assumptions: that EAD's will be (a) 16 percent, (b) 15 percent, or (c) 12 percent of the total projected doctorates in education.

The projected numbers of future EAD's based on these assumptions are recorded in columns 3, 4, and 5 of Table VI. The annual production of EAD's exceeded 1,000 for the first time in 1969-70. EAD's are not likely to exceed 2,000 per year any earlier than 1978-79. They will not reach 2,000 per year, even in the early 1980's, if EAD's end up being only 12 percent of all education doctorates. The annual production rate for EAD's does not appear likely to go much beyond 2,300 until the mid 1980's even with the most liberal assumption of EAD's accounting for 16 percent of all doctorates in education. The cumulative total of EAD's awarded during the ten year period of 1971-72 to 1980-81 may range from a low of about 12,600 to a high of almost 16,900. This is a variation in average annual production of EAD's of from 1,260 to 1,690. The number of projected EAD's for the 1970's will be about twice the cumulative total for the previous decade. The biggest surge will take place in the first half of the 1970's, with smaller annual increases in the late 1970's and early 1980's. The largest number of doctorates will be awarded in the last half of the 1970's. There are suggestions of of a leveling off in the 1980's, but no indications as yet of any declines in annual EAD production.

If the projections shown in Table VI come to pass, then the 1971-72 to 1980-81 period will be remembered as the ten year period when more doctorates in education were awarded than were granted in the previous one hundred years. Those who desire even more dramatic data can state with equal accuracy that the production of doctorates in education in the 1970's will be greater than all the doctorates produced in the previous 500 years, 1,000 years or all of the previous history in education.

Much the same type of conclusions can be reached with reference to doctorates in educational administration, If 16,900 EAD's are produced in the 1971-72 to 1980-81 period, then this output will be larger than the combined total of EAD's in all history previous to 1971.

The anticipated unprecedented growth in the production of doctorates in education in general and educational administration in specific, in turn, stimulates concerns as to whether there will be a glut of education doctorates during the 1970's to match or exceed that suspected in the more academic disciplines. A side issue to this is

TABLE VI

Projected Earned Doctorates in Education and Estimates of Earned Doctorates in Educational Administration Based on Projections, 1971-1983

Year	Projected Doctorates in Education*	Estimated Doctorates in Educational Administration Based on the assumptions that educational administration doctorates will be the following percent of projected education doctorates:		
(1)	(2)	(3) 16%	(4) 15%	(5) 12%
1971-72	7,040	1,126	1,056	845
1972-73	7,390	1,182	1,109	887
1973-74	8,470	1,355	1,271	1,016
1974-75	9,390	1,502	1,409	1,127
1975-76	10,010	1,602	1,502	1,201
1976-77	11,440	1,830	1,716	1,373
1977-78	11,970	1,915	1,796	1,436
1978-79	12,800	2,048	1,920	1,536
1979-80	13,410	2,146	2,012	1,609
1980-81	13,440	2,150	2,016	1,613
1981-82	13,620	2,179	2,043	1,634
1982-83	13,900	2,224	2,085	1,668
Subtotal A: 1971-72 to 1975-76	42,300	6,767	6,347	5,076
Subtotal B: 1976-77 to 1980-81	63,060	10,089	9,460	7,567
Subtotal C: 1971-72 to 1980-81	105,360	16,856	15,807	12,643

*SOURCE: For column 2, National Center for Educational Statistics: *Projections of Educational Statistics to 1982-83*, 1973 Edition. Projections in columns 3, 4, and 5 by S. J. Knezevich.

whether there is any justification, in view of the alleged or impending glut of doctorates in fields other than education, for any expansion in numbers of institutions offering doctorates in education in general and in educational administration in specific.

Projections based on simple extrapolations assume that a definitive and unalterable trend has been established. The reader is cautioned once again that there are serious limitations to the art of projecting data. All projections should be reviewed and revised on an annual basis. Mortals in their arrogance to divine the future must be prepared to suffer indignities of subsequent realities which can wreak havoc even with the most carefully massaged data. It is much safer to pontificate on what happened in the past. Historians can enjoy luxuries not available to futurists. The 1970's will be a decade of adjustment and adaptation to new circumstances and previously noted trends may not hold true in the 1970's. Value judgments as to oversupply and undersupply must be hedged in light of the limitations that confront the art.

The Pool of the Administrator Certificate Holder

The problem of developing a manpower policy with respect to EAD's is exacerbated by the fact that entry into a number of job markets for which an EAD is prepared is not restricted to those with a doctorate. In only two states is a preparation level approaching or equaling the doctorate demanded for the granting of a certificate or credential (by a state agency) to practice as an administrator of K-12 school systems. The total supply in educational administration is often construed as the total pool of administrator certificate holders as well as the annual output of new certificate holders. Some day, the doctorate may be the minimum preparation level demanded for entry into the practice of educational administration. Today, the estimates of supply must include those with less than an EAD.

It is difficult to obtain precise information on the total number of individuals in various states who have qualified for and presently hold a certificate or credential to administer at the building, central office, or superintendency levels in K-12 school systems. One source indicated that in New York State alone there were 15,000 teachers with a certificate which would qualify them for principalship appointments when available.[12] But only a total of 203 principalship positions were available in 1969-70 for this mass of administrator credential holders in New York State. This same source suggested that 600,000 teachers could be eligible "to be at the principal's doorstep if they are willing to move."[13] This represents one extreme and suggests a heavy oversupply because they hold certificates, but not necessarily doctorates. This may be partially true in large metropolitan centers where most are "place-bound," but is not likely to be indicative of national practices.

More precise data on a state by state basis are needed to shed light on the issue of the numbers of valid administrator certificate holders. The fact that many do not desire to move (are "place-bound" rather than "career-bound") to another locale demands special treatment of such data. The age distribution of certificate holders in various states and nationally is not known. The AASA's 1969-70 study of the superintendency indicates that the probability of becoming a superintendent is not very high if one's entry into administration and supervision is delayed until age 40 or later.[14] Only 5.5 percent of the superintendents started that late in their first administrative or supervisory position. Most began their careers as administrators or supervisors before the age of 35. What this means is, that, a number of certificate holders beyond the age of 40 who are not presently employed in an administrative or supervisory position are not likely to be serious contenders for many administrative and supervisory positions that may open in future years. The chances are only about one in twenty that certificate holders in the post-40 age group are likely to enter administration.

A relatively high percentage of those with an administrator credential will have earned less than a doctorate, with most completing a master's degree. The ease of obtaining a certificate in previous years, that is, prior to 1950, doubtless swelled the pool. Even today in most states it is not overly difficult to obtain a certificate to practice. It is a license to compete, an opportunity, and not a guarantee. The greatest difficulty comes in winning an appointment to such a position over a large number of applicants. There are no data available at present to indicate how many administrative certificate holders become inactive candidates if not placed in an administrative position within five years after qualifying and receiving the credential.

It is questionable whether the supply dimension for the field of educational administration can be related to the numbers of administrator certificate holders. The fact that the pool of those with such a credential is five or ten times larger than the number of administrative positions which become available each year is better interpreted as a need to tighten up on certificate issuing standards than it is a reflection of oversupply of EAD's. The license to practice is a minimum qualitative demand. Personal and special experience factors, usually not considered in granting a certificate, receive special attention during the employment interview for administrative positions.

Judgments as to whether or not there is the doctoral glut in educational administration should be kept separate from the issue of the excessive number of holders of administrator certificates for most, to repeat, do not hold a doctorate. The current and projected supply of EAD's is but one factor in manpower policy development. The demand side of the picture must be analyzed before judgments are rendered, that is, there must be an identification of users and/or potential job opportunities for EAD's.

The Demand For Educational Administration Doctorates

Teaching and research positions in universities do not constitute the primary or secondary job market for the large majority of EAD's. The largest single source of demand for EAD's are boards of education in local school districts. EAD's seek employment in administrative, supervisory, and related non-teaching positions. They opt for leadership opportunities. Such positions are less sensitive to enrollment shifts than are teaching positions. Thus, there is a need for a high school principal in attendance centers whether the enrollment in Grades 10-12 is 750 pupils or 50 percent fewer, that is 375 pupils. There may be fewer assistant principalships, but a chief administrative officer at the building level will be necessary. Obviously, the larger the enrollment, the larger the number of attendance centers so that expansion may dictate increases in administrative positions and substantial enrollment reductions may call for the closing of some attendance centers.

Opportunities for EAD's in Local School Districts

There are approximately 16,000 school districts in the U. S. at this point in time. By the end of the present decade there may be only 10,000. This reduction will result in fewer districts but with larger enrollments and perhaps more attendance centers in the surviving units.

In 1972-73 there were approximately 13,000 superintendents; in 1970-71, 14,379. By the end of the 1970's this number may be reduced further to approximately 10,000 school superintendencies. In 1972-73 there were 1,878 superintendents serving districts with pupil enrollments of less than 300. These districts and positions should disappear by the end of the decade along with about 1,200 of the 7,842 superintendencies in districts with enrollments of 300 to 2,999.

The 1969-70 AASA study of the superintendency reported that in reality only about 15 percent had an earned doctorate. This is a weighted figure that is not unduly influenced by the more advanced preparation level of those in larger superintendencies. Previous status studies of the superintendency used unweighted profile figures that distorted national percentages because those in larger superintendencies had more advanced schooling and were more likely to respond to AASA surveys. Comparison with studies completed prior to 1969-70 must be made with the unweighted profile. The unweighted superintendency profile for 1969-70 showed 29 percent had an earned doctorate. Less than 3 percent of the superintendents prior to 1930 had earned doctorates. In 1950, 14 percent of the urban and 2.3 percent of the rural superintendents reported earned doctorates. These data suggest a trend toward a higher percent of the school superintendents serving with an earned doctorate. It is the writer's opinion that no less than 30 percent of the school superintendents, after weighing of national data, will have earned a doctorate in 1980. This will be twice that reported for 1969-70.

The evidence from the AASA study completed in 1969-70 data supports the generalization that the larger the school district the more likely it is that a superintendent will have an earned doctorate. Almost two-thirds of the superintendents in districts with enrollments of 25,000 or more pupils had an earned doctorate. Over 85 percent of the chief school executives in districts with 100,000 or more pupils reported an earned doctorate. One might surmise that a doctorate today is at least a minimum preparation requirement or a competitive edge for those seeking appointment to superintendencies in larger school districts.[15]

The estimated numbers of administrative and supervisory positions in public school districts in 1972-73 are summarized in Table VII. These data are based on NEA Research Division estimates.

It is estimated that there were approximately 6,200 deputy, associate and assistant superintendents in 1972-73. It is assumed that this number will increase as larger school districts are formed and more complex demands are made on the schools. For the purposes of this study it is assumed there will be 7,000 of these positions by the end of the decade. This assumes that the elimination of 3,000 superintendencies with the disappearance of smaller school districts will yield an additional 8000 second echelon administrative positions by the end of the decade. There are no definitive data on the preparation background of administrators at this rank. It can be assumed that demands for doctorates in these ranks will not be much less than that for the chief school executive position.

There were almost 48,500 other central office administrative positions in 1972-73. These may increase not because of expansion

TABLE VII

Administrative and Supervisory Positions In Public School Districts of the United States, 1972-73 and 1979-80

	1972-73 Estimates No. of Persons		1979-80 Projections No. of Persons.	
1. Superintendent	13,037		10,000	
2. Deputy, Associate and Assistant Superintendent	6,210		7,000	
3. Other Central Office Administrators	48,488		50,000	
A. Subtotal Central Office		67,715		67,000
4. Principals				
a. Senior High	15,827			
b. Junior High	9,374			
c. Elementary	48,196			
B. Subtotal Principals		73,397		71,000
5. Assistant Principals				
a. Senior High	13,289			
b. Junior High	7,817			
c. Elementary	6,483			
C. Subtotal Assistant Principals		27,589		28,000
Grand Total		**168,701**		**166,000**

SOURCE: For 1972-73 data, The NEA Research Division; Projections by S. J. Knezevich.

in enrollments but because of the formation of larger districts and the growing expectations for education. It is estimated that there will be 50,000 central office administrative positions in local school districts by the end of this decade. The experience of the early years of the 1970's suggested that the sharp budget cuts lead to the elimination of central office administrative positions. This is a temporary reaction. The number of such positions needed to fulfill the leadership and innovative demands was at least twice the approximately 45,000 that existed in 1970-71. The growth rate in these positions suggested for the end of the decade is likely to prove to be conservative.

By far and away the largest number of administrative positions in public K-12 districts are principalships and assistant principalships. The numbers in these positions exceeds the numbers in all other administrative positions combined. In 1972-73 there were almost 73,400 principalships and almost 27,600 assistant principalships. The total number of building level administrative positions in 1972-73 were almost 101,000. Probabilities are great that the 2,388 principalships in districts with less than 300 pupils in the entire system are likely to disappear by the end of the present decade.

Much the same can be said for the 185 assistant principals in such districts. By the same token, the formation of larger attendance centers through consolidation of the smaller ones may increase the number of assistant principalships by the end of the decade.

It is projected that by 1979-80 there will be approximately 71,000 principalships and 28,000 assistant principalships in U. S. public school K-12 systems.

The percent of principals with EADs is far less than that recorded for superintendents. Thus, in the mid-1960's, 3 percent of the senior high principals, 4 percent of the junior high principals, and 1 percent of the elementary principals had earned doctorates. Once again the larger the high school and the more affluent the community in which it is located, the more likely it is that the principal will hold a doctor's degree. There is only a sprinkling of doctorates among assistant principals. The pressure for greater professional preparation for acquiring and holding a principalship will intensify during this decade. The AASA study of 1969-70 reported that the principalship was the entry level administrative position for over 70 percent of the superintendents.

In summary, there were about 168,700 administrative and supervisory positions in public K-12 school districts in 1972-73. It is estimated that there will be approximately 166,000 such positions available in public school districts by the end of the current decade.

These data do *not* include administrative positions in private K-12 educational systems. There were 18,142 nonpublic elementary and secondary schools in the U. S. in 1970-71, of which 11,343 were affiliated with the Roman Catholic Church. It is estimated that there will be at least 15,000 administrative and supervisory positions in the private educational sector by the end of the present decade.

Intermediate Units

There are relatively few intermediate units of school administration, sometimes called regional education service agencies. It is estimated that there are approximately 5,000 administrative and supervisory positions in these agencies. All employ an administrator of chief executive rank. The formation of larger and more complex intermediate units may result in a reduction of such units by 1980. By the same token a number of second and third echelon administrative personnel in such agencies may be increased to satisfy the demand for higher quality of special administrative and supervisory services.

It is projected that there will be no fewer than 5,000 administrators and supervisory positions available in intermediate units of school administration by 1979-80. This is probably conservative and the actual numbers may exceed 7,500 by 1980. For

the purposes of this study it is assumed that only 5,000 such positions will be available by the end of the decade.

State and Federal Agencies

The fifty state education agencies, the United States Office of Education, the National Institute of Education as well as regional laboratories and research and development centers also demand administrative and supervisory personnel at the first, second, and third echelon level. This is above and beyond those who are actually performing direct services to clientele.

One can only speculate on the total administrative and supervisory personnel employed in such agencies. It is this writer's opinion that there are 25,000 administrative and supervisory positions available in these agencies. Declining school enrollments are not likely to have a significant impact on such positions. Most are presently understaffed in relationship to the clientele to be served. It is conservatively estimated that there will be 25,000 such positions by the end of the decade.

Post-Secondary Schools

Community colleges as well as Vocational, Technical, and Adult Education Agencies grew at very rapid rates during the post-World War II period. The 1,100 two-year or community college institutions and the roughly 1,000 other special post-secondary schools suggest that the number of administrative and supervisory positions available therein are at least in the 5,000 to 6,000 range. It is estimated that by the end of the present decade there will be 6,000 administrative and supervisory positions available in these institutions.

University Level Employment Opportunities

Educational administration doctorates can be employed in teaching education administration courses, teaching other courses in colleges of education and in university administrative positions. The total full-time faculty in *colleges of education* only is about 55,000 to 60,000 at present. It is estimated that this number may decline to 44,000 by the end of the decade. The number of teaching positions in colleges of education (other than professorships in educational administration) to which doctorates in educational administration could be assigned is assumed to be one-fourth or one-third of the total in these colleges in view of the involvements of administrators in different dimensions of education. A conservative estimate of one-fourth of 44,000 would yield approximately 11,000 teaching positions in colleges of education by the end of the decade. Professorships in educational administration are posts which EAD's are uniquely qualified to assume. The number of such professorships

have been estimated to be as low as 1,050 and as high as 1,300. The number of these positions are estimated to be 1,200 by the end of the decade.

The number of positions that could be available to EAD's in university administration is approximately 2,000 at present. It is estimated that this will decline to 1,500 by the end of the decade.

The total employment opportunities in universities for educational administration doctorates by the end of the decade will be approximately 11,000 more general teaching posts in colleges of education, 1,200 professorships in educational administration, and 1,500 university administrative positions. This is a total of 13,700 posts.

Summary of Employment Opportunities

University employment opportunities for EAD's presently represents less than 10 percent of the total available. By the end of the decade universities may provide about 5 percent of the job opportunities available to EAD's. It is apparent that doctorates in fields other than educational administration simply do not have the range of job opportunities that are available to EAD's.

There can be no question that the total positions available for which EAD's can qualify, as well as those with other doctorates, will change dramatically during the 1970's. The nation is moving from the robust expansionary period characteristic of the 1950's and 1960's to a time of stability in the early 1970's and probable retrenchment in the late 1970's. It is also highly probable that there will be lower employment turnover rates in the 1970's as well and, hence, fewer replacements will be needed.

Clearly the 1970's will be an atypical period. Projections will be more difficult as trends are broken as the result of dramatic changes in previous decades. Nonetheless, it is estimated that the number of employment opportunities for which educational administration doctorates can qualify by the end of this decade may approach approximately 230,700 positions. This represents the cumulative total of opportunities in public school districts, private K-12 schools, intermediate units, state and federal agencies, post-secondary schools, and universities. These data are summarized in Table VIII.

Opportunities in noneducational fields, that is, in business and industry with substantial educational components or a significant relationship with educational institutions would swell the potential employment opportunities 235,000. The actual potential employment does not reflect the number of job openings that may be available in any given year. This calls for an examination of turnover rate as well as positions.

Turnover Rates and Annual Job Openings

Position openings in any year become available through death, retirement, promotion, or departure for other reasons of position incumbents. Expansion of existing types or creation of new positions in any given year also help to create a demand to search for new personnel. It was assumed in previous paragraphs that no expansion in positions attractive to EAD's is likely to occur during the 1970's. The reverse, namely, elimination of previously established positions is more likely to occur. The experience of the past few years documents that tenured positions were abolished, in numbers approaching 100, at several universities.

Previously computed turnover rates are of questionable value during times of dramatic changes. Nonetheless, they represent the best basic data available in making projections. Some educational systems reported turnover rates of up to the 25 percent level during the 1960's. Others were closer to an annual rate of 15 percent. At the present time the shift to retrenchment and fewer new opportunities may bring the annual job turnover rate closer to 10 percent.

For the purposes of this study it will be assumed that a turnover rate will be no higher than 10 percent and no lower than 7 percent during the remainder of the 1970's. This means that the annual number of positions to be filled by EAD's or others near the end of the decade may range from a high of about 23,000 to a low of about 16,100. These opportunities will be scattered throughout the nation. It is assumed that EAD's are more mobile than others and are not likely to be place-bound.

Once again certain assumptions must be made as to what percent of the job opening will be filled by those new to administration and supervision and what percent will be filled by the rotating supply of those previously employed in the field. For the purposes of this

TABLE VIII

Summary of Employment Opportunities For EADs

Administrative and Supervisory Positions In:	1972-73	Estimated In 1979-80
1. Public School Districts	168,701	166,000
2. Private K-12 Educational Systems	20,000	15,000
3. Intermediate Units	5,000	5,000
4. State and Federal Agencies	25,000	25,000
5. Post-Secondary Schools	6,000	6,000
6. Universities	22,000	13,700
Grand Totals	**266,701**	**230,700**

report it will be assumed that 50 percent of the positions in educational administration and supervision becoming vacant in any one year will be filled by those who are new to the profession for the first time. This means that approximately as many as 11,500 or as few as 8,000 positions may be awarded to those new to the field of administration and supervision.

Under-Supply and Over-Supply of the EAD's

The assumptions and data presented herein on estimated supply, or production, of EAD's, the number and range of job opportunities available to those prepared in educational administration and supervision, turnover rates, and number of positions becoming vacant in any one year that may be available to those entering administration/supervision for the first time are useful in arriving at the value judgment as to whether there is an over-supply or an under-supply of doctorates in educational administration now or by the end of the decade. The highest estimated annual production of doctorates in educational administration for the end of the present decade is about 2,150. (See Table VI.)

It should be kept in mind that doctorates in educational administration are pursued by those presently employed in administrative positions as well as those who are not in such positions. Again, there is a lack of definitive data to determine, on a national basis and over an extended period of time, precisely what percent of those pursuing a doctorate in educational administration presently are in an administrative or supervisory position. Traditionally it has been quite high. Some institutions will not accept students for the doctorate in educational administration unless they have the credibility of prior administrative or supervisory experience. More recently there has been an easing of such requirements, particularly since the emphasis on administrative internships as a way for doctoral students to develop a better feel for the practice of administration. A very conservative estimate would be that 50 percent of those pursuing a doctorate in educational administration presently hold administrative or supervisory positions.

The annual production rate for EAD's of about 2,150 projected for the end of the decade is only about 25 percent of the number of administrative and supervisory positions that become vacant annually and are available to those without prior experience in administration and supervision. It is recognized that most positions in educational administration and supervision traditionally are filled by those without a doctorate. EAD's would have a competitive edge, other things being equal.

There are no data in this research report which would support the generalization that a doctorate glut in educational administration is

imminent during the 1970's, if a "glut" is defined as there being more persons with doctorates who present themselves for job openings than there are jobs available. There is not likely to be an overproduction of EAD's during most of the 1980's either. By the late 1980's and early 1990's there may be a possibility of a saturation of the field with doctorates in educational administration, that is, when practically all in positions of administration and supervision (actual practice or in university teaching) hold an earned doctorate.

University professorships and research positions demand an earned Ph.D. At this point in time a doctorate is not necessary for entry into most administrative and supervisory positions. Most states do require at least a master's degree for the minimum certificate to practice as an administrator and supervisor in local school districts. Certification demands represent minimum requirements and represent a constraint upon school systems that employ EAD's.

Today a small minority of practitioners in educational administration at the local school district level hold an earned doctorate. Less than one in six in the superintendency and less than one in 20 in the principalship are EAD's. As has been pointed out previously the larger the school district the greater the probability that the chief school administrator, namely, the superintendent, has an earned doctorate. Likewise, the larger the school principalship and the more likely it is located in large cities or affluent suburbs the greater the probability that secondary school administrators will have an earned doctorate. The emphasis on the doctorate comes primarily from those who desire to have administrators with a higher level of professional competencies.

With the increasing competition for positions in education institutions, particularly at the administrative and supervisory level, it is predicted that there will be greater emphasis on the doctorate as the minimum level of preparation prior to entry into practice or employment to a position in administration and supervision. It is predicted that by 1985 the majority in administrative and supervisory positions will have an earned doctorate and that most states will demand the doctorate as the minimum professional preparation for qualification for the administrative and supervisory certificate. The pursuit of the doctorate in educational administration should be encouraged rather than discouraged in the light of these factors. The longer period of professional preparation, hopefully, will upgrade the quality of administrative and instructional leadership. Once again it is not appropriate to compare educational administration, where only a small minority hold an earned doctorate, with other fields such as university teaching in various academic disciplines, where most hold an earned Ph.D.

Capability to Produce EAD's During the 1970's

At present institutions offering programs in educational administration terminating with the granting of a doctorate are found in all but a very few states. No one has suggested the community college standards should apply to doctorate programs in educational administration, namely, that doctorate programs should be within driving distance or 50 miles of all persons interested in pursuing a doctorate. Convenience should not be the most important factor in determining whether or not more doctoral programs in educational administration are needed. Nonetheless, it can be said at this point in time doctoral programs are conveniently located to the majority of the professional population to be served.

Culbertson[16] noted the growth in new master's, specialists, and doctoral programs contemplated for the 1970's. The number of Ed.D. programs in educational administration more than tripled between 1940 and 1970. What's more, seven new Ed.D. programs came into being between 1970 and 1972, and ten institutions were contemplating entry into such preparation levels during the 1972-74 biennium.

Culbertson[17] also indicated that it appeared to be more difficult to start new Ph.D. programs in educational administration. Nonetheless, four new Ph.D. programs in educational administration appeared during 1970-72 and seven were projected for the 1972-74 biennium.

It can be concluded that the field has an ample number of institutions with the capability to prepare students for the doctorate in educational administration. There are far more persuasive arguments and data to suggest further proliferation or increase in numbers of institutions granting doctorates in educational administration is unnecessary through at least 1985. The average or median annual output per institution can be doubled or tripled during the 1970's and the net result would be to increase rather than decrease program quality and more efficient use of resources allocated to doctoral programs in educational administration.

Summary and Conclusions

This is an initial probe, an exploratory study, into doctorate needs in educational administration during the 1970's and 1980's. It was stimulated in part by inferences in the literature during the mid-1960's and thereafter, that there would be a doctoral glut during the 1970's. The earlier reports did not include school administration. Some felt that what was happening in other disciplines could also occur in the field of education.

The first Ph.D. in the U. S. was granted in 1861 but the annual increase in doctorates awarded in the academic disciplines remained modest through the remainder of the 19th century. The first big surge came after World War I for the annual output of earned doctorates in all fields almost quadrupled between 1919-20 and 1929-30. In 1921 there were fewer than 60 universities engaged in graduate study through the doctoral level and most of those were private institutions. The 15 leading universities awarded 75 percent of the Ph.D.'s in 1925, 59 percent in 1934, 49 percent in 1940 and less than 40 percent in 1966. Today, one speaks of the leading 60 institutions rather than a mere 15.

The "golden years" of graduate education were the 25 years following the end of World War II. They were the heady years of unprecedented growth measured in so many different ways. The total number of all graduate degrees awarded quadrupled in the post war years, but there was a seven-fold increase in Ph.D.'s granted during the same period. Almost 40 universities started new doctoral programs between 1950 and 1970. Doctoral production almost tripled from 11,622 in 1961-62 to 32,133 in 1970-71. By 1972-73 it hit 34,400.

Earned doctorates in education more than tripled from 1900 in 1961-62 to 6,398 in 1970-71. Again 1972-73 saw a new high of

7,390. The growth rate for education doctorates outstripped that for doctorates in all disciplines during the 1960's. By 1969-70 earned education doctorates climbed to 20 percent of all doctorates awarded. There are presently more doctorates awarded in education each year than in any other academic discipline.

It was in 1966 that Cartter predicted an over-production of doctorates in the 1970's which was a direct challenge to those who earlier forecasted a doctoral deficit. The seeds of this study can be traced to Cartter's report which did not probe into such special fields such as educational administration but rather focused on the more traditional and academic disciplines.

The fate and future of graduate education was the subject of considerable scrutiny following the Cartter study. The three most recent (1973 and 1974) studies of graduate education which focused on doctoral production were the Newman task force, the Panel on Alternate Approaches to Graduate Education, and the Henry report for the National Board of Graduate Education. All viewed the 1970's as a time of great adaptation from the unprecedented growth in graduate education during the golden years. Some called for cutbacks in Ph.D. admissions and curtailment of programs. The Newman report was wary of what new Ph.D. programs were doing to the overall quality of graduate education and spoke of the dangers of a new kind of Gresham's Law in higher education.

The Henry report (National Board of Graduate Education) in 1974 rejected what they called "forecasts of an impending Ph.D. glut." They likewise questioned whether new doctoral programs automatically cause cutbacks at institutions of acknowledged excellence. The NBGE discouraged proliferation of new programs and called for $108,000,000 from the federal government to finance portable graduate fellowships.

Traditionally, Ph.D.'s in the academic disciplines are involved in teaching and research roles. Universities are prime employers of new doctorates in the academic disciplines. Research and development centers make up the secondary job market. The termination of university expansion and subsequent retrenchment that greatly reduce the employment opportunities for the typical new doctorate and re-affirmed concerns for the so-called Ph.D. glut. More and more implied that retrenchment was in order in the 1970's and suggested that the present decade would not justify an increase in institutions granting a doctorate.

Accurate historical data on educational administration doctorates (EAD's) are difficult to obtain. As late as 1962-63 national data on EAD's included doctorates in curriculum and comparative education. The annual production of EAD's during the 1950's was estimated to be between 300 and 400. It exceeded 1,000 for the first time in

1969-70. In 1963-64 EAD's amounted to more than 30 percent of all doctorates awarded in education. This led to a number of generalizations and questionable extrapolations on EAD's during the 1970's. By 1970-71 EAD's were only about 16.1 percent of all education doctorates. In short, doctorates in all specializations in education grew at a faster rate than did EAD's during the dynamic '60's.

Projections of EAD's during the 1970's is fraught with difficulty in view of the fact that trends established in previous periods have been upset and, therefore, there is no adequate or stable base from which to proceed. Various published reports by the National Center for Educational Statistics which estimated education doctorates for a single future year such as 1975-76 showed wide swings from a low projection of 4,400 to a high of 11,530. This is intended to be more of a criticism of the state of the art of forecasting the future than it is of the National Center.

Projections of EAD's in this research report were based on the 1982-83 projections of education doctorates contained in the 1973 edition of a publication prepared in the National Center for Educational Statistics. Alternative forecasts were made using three assumptions as to what percent EAD's would be of the total education doctorates. These assumptions were that EAD's would be 16 percent of the education doctorates, 15 percent, and 12 percent. The annual production of EAD's will not exceed 2,000 any earlier than 1978-79 if the most liberal (16 percent) assumption were used. EAD's would remain less than 1,700 per year if the most conservative (12 percent) assumption were applied in making the projection. The cumulative number of EAD's between 1971-72 and 1980-81 will be somewhere between a low estimate of 12,643 to a high estimate of 16,856.

A doctorate is not necessary to enter the practice of administration and supervision in local school systems. The typical administrative certificate holder is likely to have the master's degree as the highest preparation level. There are more holders of administrator credentials than there are positions available. Estimates vary as to the magnitude of the "excess". Judgments as to whether or not there will be a glut of EAD's should be kept separate from the over issuance of certificates since most such individuals do not have an earned doctorate. Tightening certification standards through demanding high preparation levels rather than curtailment of doctorates at this point in time is the better approach to reducing the numbers who seek an administrative or supervisory credential.

The demand side of the supply-demand equation for EAD's is even more difficult to ascertain with preciseness than is the supply. Educational administration is a unique field and one cannot assume

that what happens in graduate education for the academic disciplines will be duplicated in educational administration. Doctorates in other fields look to university teaching and research and development as their primary and secondary job markets. Doctorates in educational administration in contrast would find less than 5 percent of their job opportunities related to teaching at the university level. EAD's look primarily to administrative and supervisory positions rather than teaching.

The job market for EAD's includes public school K-12 districts, private educational systems, intermediate units, state and federal education agencies, post-secondary institutions, as well as universities. By far and away the largest single prospective employers of EAD's are local school districts. It was estimated that there were in 1972-73 266,701 positions for which EAD's would qualify. These may be reduced to about 230,700 by 1979-80. Positions of interest to EAD's are less sensitive to enrollment declines than are teaching positions.

It was assumed that a reduced annual turnover rate of no more than 10 percent and no less than 7 percent would prevail during the 1970's. This translates into annual position vacancies likely to be available to EAD's at the end of the present decade of from 16,000 to 23,000. These are national figures, and it is assumed that a tight job market would stimulate greater interstate mobility. It should be kept in mind that many pursuing an EAD are already in an administrative or supervisory position. The data, therefore, represent conservative estimates. It was assumed further than 50 percent of these positions would be filled by those new to the profession. The annual placement market for EAD's new to administrative or supervisory positions would be between 8,000 to 11,500 in the late years of this decade. The annual production rate for EAD's of about 2,150 projected for the end of the decade is only about 25 percent of the number of positions available.

Data presented herein show no fewer than 118 institutions engaged in the preparation of EAD's. More contemplated entering into such programs in the first half of the 1970's. The typical or average institution in 1968-69 turned out about 16 EAD's a year, but the variation in output of individual institutions is very great. There is not a shortage of institutions preparing EAD's. The present number is capable of satisfying the needs for EAD's during the 1970's. An expansion of doctoral students in those now with such programs would result in more efficient utilization of resources. There is far more reason to be worried about a glut in the numbers of institutions producing EAD's than in the glut in EAD's per se in the 1970's.

The number of doctorates in education that may be awarded during the 1970 decade will be greater than the total of all EAD's

produced in all of previous history. In spite of the tremendous increase in the production of doctorates in educational administration there is a very small likelihood that there will be an excessive supply. There are special problems of women and minority persons being prepared for administrative and supervisory positions. An expansion of doctorates among these groups needs to be increased substantially.

There are no data in this research report which would support the generalization that there is an impending doctorate glut in educational administration during the 1970's. The field will not be embarrassed by the richness and fullness of the preparation level of its manpower pool in the 1980's either. The data presented herein suggest that it is not appropriate to compare educational administration, where only a small minority hold an earned doctorate, with other fields such as university teaching in various academic disciplines, where most hold an earned Ph.D.

This writer must confess to a bias. It is that we can no longer prepare the quality of administrator and supervisor demanded by today's educational institutions (elementary and secondary schools, post-secondary institutions, state and federal agencies, and universities) in a period as short as one year of graduate education. The long standing arguments in the preparation of the effective administrators such as general vs. special education, single discipline concentration vs. multidisciplinary education, knowing what is being administered vs. how to administer, emphasizing curriculum and learning theory vs. administrative and organizational theory, and acquiring competencies to be an educator vs. acquisition of competencies to be an effective administrator are more amenable to resolution if the preparation program covers a 7 year rather than a five year period. It is a bias that declares that a doctorate should be considered as the minimum period of preparation for entry into the practice of educational administration. Hopefully, by 1985 complex responsibilities such as the superintendency will be recognized as an area of post-doctoral specialization available to those with prior experience in administration and supervision as well as an EAD. Given this bias, the writer concluded that a doubling or tripling of EAD's, in a field where presently only a small minority now holds earned EAD's, during the 1970's is to be encouraged, that is, should become a target for the profession. It is not, therefore, in the best interests of educational administration to worry about, and publicize worry over doctorate overproduction for this could militate against procurement of federal and other doctoral fellowship grants for top level students, and particularly women and those from minority backgrounds, interested in educational administration and supervision as careers.

The prime and continuing concern for the 1970's should be the improvement of the quality of preparation programs culminating in an EAD. An extended period of preparation is an opportunity rather than a guarantee that an effective administrator or supervisor will be prepared. Definition of the range of promising program options for the acquisition of competencies essential to success in educational administration will become even more urgent in the 1970's as educational institutions are confronted with sudden shifts in demands, unanticipated environments, and severe resource limitations, but forever growing expectations and standards of excellence.

Proliferation of new doctoral programs is not the answer. The field has the capability to prepare the number and range of EAD's required in the 1970's and 1980's. The excessively large pool of administrator certificate holders distorts the challenges that lie ahead. Hopefully, certification standards which have lagged behind demands for excellence in the field will, before the decade is out, recognize the EAD from quality programs as the minimum level of preparation for those who aspire to obtain competency-based administrator certificates.

This study concludes in the same humble spirit it began. More definitive data are needed that can hopefully be obtained through a fifty state network to provide a more precise reading on the size of the certificate pool in educational administration and supervision by age groups, the number of administrative positions available in the various types of institutions, annual turnover rate in administrative and supervisory positions, and special concerns of minority and female administrators.

The purpose of this study is to stimulate further and more sharply focused investigations to obtain a more definitive answer to the issues raised. In view of the dynamic times, it is strongly recommended that a similar study be commissioned in five years, that is, near the end of the present decade.

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